

11/30/2011

Page 1 of 1

1214848 - R8 SDMS



Third West Weekly Report
Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)'

11/30/2011 09:22 AM

Hide Details

From: "Shepherd, Michael" <Michael.Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Bamitz (cbamitz@utah.gov)'"
<cbamitz@utah.gov>

5 Attachments



Weekly Report 11-21 to 11-23.pdf Third West Weekly Log 2011-47.pdf 224716-1.pdf 224794-1.pdf 224878-1.pdf

Joyce & Craig,

Attached are the reports for the week of November 21, 2011.

All air monitoring results came back negative.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com



Reservoirs Environmental, Inc.

November 23, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224716-1
Project # / P.O. #: None Given
Project Description: Rocky Mtn. Power 3rd
West Sub Station

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224716-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224716-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: Rocky Mtn. Power 3rd West Sub Station
Date Samples Received: November 22, 2011
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: November 23, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W112111-E	EM 827626	0.1000	826	ND	0.0047	BAS	BAS
3W112111-S	EM 827627	0.0800	973	ND	0.0049	BAS	BAS
3W112111-N	EM 827628	0.0800	971	ND	0.0050	BAS	BAS
3W112111-W	EM 827629	0.0800	970	ND	0.0050	BAS	BAS

NA = Not Analyzed

ND = None Detected


BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm


 Digitally signed by
 Elisha Ellerman
 DN: CN = Elisha
 Ellerman, C = US,
 O = Reservoirs
 Environmental, Inc.
 Date: 2011.11.23
 11:55:46 -07'00'

DATA QA

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/21/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- ☒ Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
- ☐ Exclusion zone operations are practiced as instructed.
 - ☒ Decontamination unit is working properly.
 - ☒ Workers are using decontamination unit as instructed.
 - ☐ Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
- ☒ Field Sample Data Sheets (FSDS)
- ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- NA Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 11/21/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

		In Compliance	Out of Compliance	N/A	
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.			x	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.			x	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.	<input type="checkbox"/>	<input type="checkbox"/>	X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer of the tool is double insulated.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.	<input type="checkbox"/>	<input type="checkbox"/>	x	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

While R&R was away from the site for about 15 minutes, Newman construction began digging in what was to become the exclusion zone in the central area of the sub station. This excavation involved disturbing native soil potentially contaminated with vermiculite and was conducted without communication to R&R, CVE, or Rocky Mountain Power. Newman was using an excavator to remove large concrete footings and soil without respiratory protection or protective clothing (Tyvek®), and the exclusion zone had yet to be completely set up and activated where they were digging. When R&R addressed a employee from Newman about exclusion zone procedures, the Newman employee became upset and halted work. This all took place between 8:40-9:15 am and this excavation work was suspended until the exclusion zone was active later in the afternoon around 13:30. At that point, Newman employees suited up with protective clothing and respirators, entered through the decontamination zone, and observed exclusion zone procedures.

CVE continued working on forms for concrete pours planned for 11/24.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/22/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
- NA Decontamination unit is working properly.
- NA Workers are using decontamination unit as instructed.
- NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday; PacifiCorp Employee

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- NA Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station Date: 11/22/11
 Location: 3rd West, 1st South, SLC Job Number: _____
 Survey Conducted By: Jon Craig Title: IH Technician

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	x			
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	x			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	x			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x			
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	x			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2" fire resistance barrier.	x			

<i>Standard</i>	<i>Title</i>	In Compliance	Out of Compliance	N/A	<i>Corrective Action Taken and Date</i>
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1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			x	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
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1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
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1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.	x			

Comments:

CVE pouring transformer retaining wall and several other footings in the main excavated pit.

Exclusion zone is active. No disturbance of contaminated soil occurred today in the exclusion zone.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/23/11

General

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- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
- ☒ Field Sample Data Sheets (FSDS)
- ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
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- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
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3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 11/23/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

		In Compliance	Out of Compliance	N/A	
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals; Training, MSDSs.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.	<input type="checkbox"/>	<input type="checkbox"/>	x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x	<input type="checkbox"/>	<input type="checkbox"/>	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
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1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.			x	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.			x	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer of the tool is double insulated.			x	
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman employees entered and began work in exclusion zone through the north gate of the substation. They did not use the decontamination zone, respiratory protection, or protective clothing while beginning their work. R&R (Justin) entered the EZ through the decontamination zone wearing a respirator and protective clothing to examine areas that had been excavated. A Newman worker was approached and directed to follow exclusion zone protocols. He became quite upset and instructed his co-workers to get ready to exit the EZ. They (Newman) drove their truck out of the north gate and proceeded to follow correct procedures by suiting up, using respirators, and entering the EZ through the decontamination unit. This had all taken place by about 8:30 am. R&R then approached the same Newman employee about communicating exclusion zone rules and the employee did not want to discuss any further.

In the early afternoon, Newman needed to exchange one of the excavators that had been used up to that point for a different one. In order to do this, they had to open the north gate of the EZ to bring in the replacement equipment and load the existing excavator. Prior to doing this, a Newman employee asked R&R to enter the exclusion zone to examine where they needed to take care of the unloading. R&R declined and indicated that in the exclusion zone was active and

would not enter unless through the decontamination unit. Newman proceeded with exclusion zone protocol after this point but they were again quite upset with being corrected. Newman was instructed to cover excavations with plastic and gravel and upon doing this to the best of their capability, the sub station was secured for the Thanksgiving holiday weekend.



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE:
11-21-11

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1



PHOTO 2

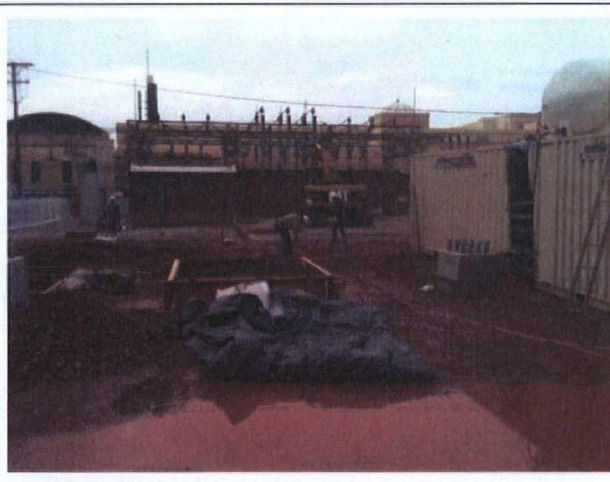


PHOTO 3

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE:
11-21-11

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**

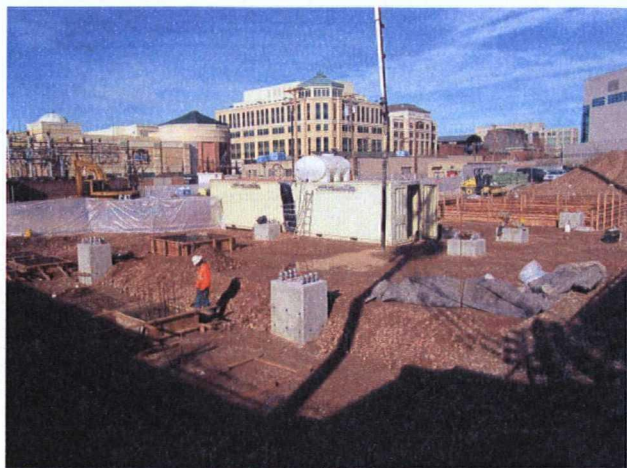


PHOTO 1



PHOTO 2

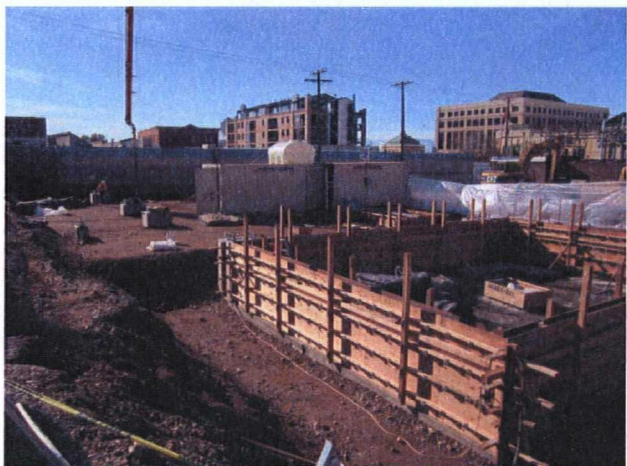


PHOTO 3



PHOTO 4

R & R Environmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

CREATED BY:

JRWC

DATE:

11/22/2011

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE:
11-23-11

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



PHOTO 1



PHOTO 2

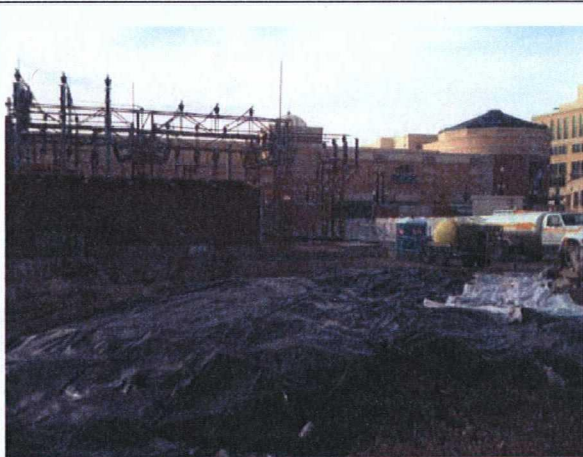


PHOTO 3



PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:

JMK

DATE:

11-23-11

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Monday, November 21, 2011

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 6:45

Crew Stop Time: 17:10

Tot Hrs mns: 10:25

FCR Start Time: 6:45

FCR Stop Time: 17:15

Tot Hrs mns: 10:30

Use military time format 00:00

WEATHER CONDITIONS:

Rainy and 34 degrees in AM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Newman adjusted the grade for the north circuit breaker foundation, as it was set 3" too high. They then completed the setup of the DECON conexes and placed water in the water supply tank. CVE line crew ran a service triplex to the DECON. CVE electrical crew hooked up the service and ran wire into the DECON. CVE fab crew completed placing rebar for the spread footer mats, squared up the walls for the oil containment, drained water from the oil containment and tied rebar for future spread footing foundations. After completing the DECON facility and erecting the fence between the clean zone and the exclusion zone, Newman removed foundations and washed the concrete in preparation for removal from the site to their pit where the concrete will be crushed. Received e-mails regarding the requirement for FTB and the process for determining whether we can pour the switchgear foundation over the existing duct bank. CVE fab crew = 7, Newman = 3, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Kim Batt 0645

Dispatcher logout, name and time: Kim Batt 1715

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

No resolution on the 20' ground rod issue.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Tuesday, November 22, 2011

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 6:45

Crew Stop Time: 16:45

Tot Hrs mns: 10:00

FCR Start Time: 6:50

FCR Stop Time: 17:10

Tot Hrs mns: 10:20

Use military time format 00:00

WEATHER CONDITIONS: Partly Cloudy and 32 degrees in AM, Sunny and 45 degrees in the PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Newman continued excavating in the exclusion zone. CVE fab crew had a 10:00 AM pour scheduled but issues at the batch plant resulted in the concrete pour starting at 11:45 and concluding around 1:15 PM. As detailed in my previous reports, the pour today consisted of the oil containment walls, two 138 kv CB foundations, two "C" foundations, two "D" foundations, and one "F" foundation, all in the existing excavated area. CVE removed the vertical "stiff-backs" from the wall forms to allow them to better cover the wall forms and also covered the other foundations poured today. I suited up this afternoon in my PPE to evaluate the concrete we discovered that was not visible prior to beginning the excavation in the current exclusion zone. CVE fab crew = 6, Newman = 3, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Ken Barto 0650

Dispatcher logout, name and time: Manny LuHaun 17:30

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

No resolution on the 20' ground rod issue.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Wednesday, November 23, 2011

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 6:50

Crew Stop Time: 15:15

Tot Hrs mns: 8:25

FCR Start Time: 6:30

FCR Stop Time: 15:30

Tot Hrs mns: 9:00

Use military time format 00:00

WEATHER CONDITIONS: Sunny, 35 degrees in the AM and 60 degrees in the PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew stripped forms from oil containment walls, circuit breaker foundations and spread footings. Cleaned up forms and re-covered all new concrete with insulated blankets. Newman broke up concrete and placed visqueen and/or gravel over the excavated areas in the exclusion zone. CVE fab crew = 6, Newman = 3, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Gus Montanez 0630
Dispatcher logout, name and time:	Gus Montanez 1530

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

No resolution on the 20' ground rod issue.	CVE to provide per unit price to drill concrete.

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



**ROCKY MOUNTAIN
POWER**
A DIVISION OF PACIFICORP

Russ Johnson

Field Construction Representative

Due Date: 11-23-11
Due Time: 9:00a

REILAB Reservoirs Environmental, Inc.
5801 Logan St. Denver, CO 80216 • Ph: 303-934-1966 • Fax 303-477-4276 • Toll Free: 888-REBI-ENV
Pager: 303-689-2098

RES 224716

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R & R Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47 W 9000 S</u>	Address:	Phone:	Phone: <u>Justin Kargis</u>
<u>Sandy, UT 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager: <u>801 828-5219</u>
Project Number and/or P.O. #:		Final Date Observable Error Address:	
Project Description/Location: <u>Rocky Mtn Power 3rd West Sub Station</u>		<u>dave@reenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:							
PLM / PCM / TEM	<u> </u> RUSH (Same Day) <u>X</u> PRIORITY (Next Day) <u> </u> STANDARD	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-Var, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analysis(s)	RCRA 8, TCLP, Wishing Furnace, Metals Scan	ORGANICS - METH	Salmonella +/-	E. coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E. coli +/- or Quantification	Coliforms +/- or Quantification	Staphylococcus +/- or Quantification	Y & M +/- or Quantification	Mold +/-, Identification, Quantification	SAMPLES INITIALS OR OTHER NOTES	Air = A	Bulk = B	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																			Coal = D	Paint = P	
Metal(s) / Dust <u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-5 Day																			Soil = S	Wipe = W	
RCRA 8 / Metals & Welding Fume Scan / TCLP <u> </u> RUSH <u> </u> 8 day <u> </u> 10 day																			Swab = SW	F = Food	
Organics <u> </u> 24 hr <u> </u> 8 day <u> </u> 8 Day																			Drinking Water = DW	Waste Water = WW	
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm												O = Other									
E. coli O157:H7, Coliforms, S. aureus <u> </u> 24 hr. <u> </u> 2 Day <u> </u> 3-5 Day												**ASTM E 1792 approved tape needle only**									
Salmonella, Listeria, B. coli, APC, Y & M <u> </u> 48 Hr. <u> </u> 5-5 Day												Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected m/d/y	Time Collected h/m/a/p	EM Number (Laboratory Use Only)				
Hold <u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 8 Day												826	A		11/2/11		827 626				
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.												973					27				
Special Instructions:												971					28				
Client sample ID number (Sample ID's must be unique)												970					29				
1 <u>3W11211-E</u>																					
2 <u>3W11211-S</u>																					
3 <u>3W11211-N</u>																					
4 <u>3W11211-W</u>																					
5 <u> </u>																					
6 <u> </u>																					
7 <u> </u>																					
8 <u> </u>																					
9 <u> </u>																					
10 <u> </u>																					

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REILAB will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Reinforced By: <u>Justin Kargis</u>	Date/Time: <u>11/2/11</u>	Sample Condition:	On Ice	Sealed	Initial
Laboratory Use Only		Temp. (F°)	Yes/No	Yes/No	Yes/No
Received By: <u>Justin Kargis</u>	Date/Time: <u>11-23-11 9:00a</u>	Carrier: <u>FedEx</u>			
Results:	Contact: <u>Dave</u>	Phone/Email/Fax:	Date: <u>11/23/11</u>	Time: <u>12:15</u>	Initials: <u>SK</u>
	Contact: <u> </u>	Phone/Email/Fax:	Date:	Time:	Initials:

Frank #4: 7577 8383 8664

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

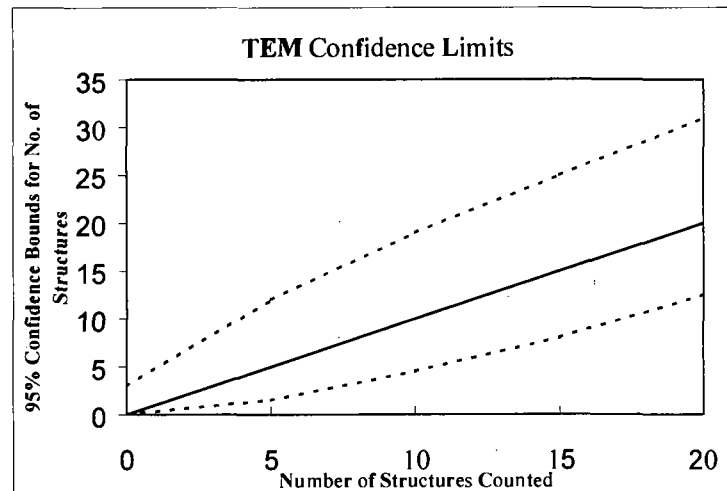
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX IV S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	826
Date received by lab	11/23/11
Lab Job Number:	224716
Lab Sample Number:	827626

Analyzed by	JB
Analysis date	11/23/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	A+
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-6	ND												
	G3-6	ND												
	F3-6	ND					Pmp A+B	~70% indirect			5-7% debris			
	E3-3	ND												
B	H3-1	ND												
	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	F5-4	ND												
	E5-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev. 1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R.R.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	975
Date received by lab	11/22/11
Lab Job Number:	250716
Lab Sample Number:	827027

Analyzed by	JB
Analysis date	11/23/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AI
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H5-4	ND												
	G5-4	ND					Pimp A	80% in but		5-7% debris				
	F5-4	ND					Pimp B	50% in but		5-7% debris				
	E5-4	ND												
B	L3-1	ND												
	K3-1	ND												
	L3-3	ND												
	K3-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\ITEM\Lab Docs\ITEM Count Sheet 11/23/11

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	971
Date received by lab	11/22/11
Lab Job Number:	2-24716
Lab Sample Number:	2-24628

Analyzed by	JB
Analysis date	11/23/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volumes Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-6	ND												
	F3-6	ND					Pop A	60% amfib		5% debris				
	E3-6	ND					Pop B	~50% amfib		5% debris				
	C3-6	ND												
B	H2-3	ND												
	G2-3	ND												
	H4-4	ND												
	G4-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev 1.44

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Page 1 of _____

Laboratory name:	REI
Instrument	JEOL 100 CX ^(N) S
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R-R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	970
Date received by lab	11/22/11
Lab Job Number:	224716
Lab Sample Number:	327029

Analyzed by	JB
Analysis date	11/23/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AF
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Ambihole	C	NAM		Sketch	Photo	EDS
A	H2-6	ND												
	G2-6	ND					Page A	60% ambient		5% debris				
	F2-6	ND					Page B	80% ambient		5% debris				
	E2-6	ND												
B	H3-1	ND												
	G3-4	ND												
	G3-1	ND												
	F3-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening

Reservoirs Environmental, Inc.

November 25, 2011

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 224794-1
Project # / P.O. #	None Given
Project Description:	Rocky Mtn Power 3rd West Sub Station

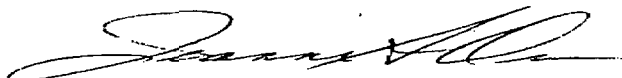
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224794-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224794-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: Rocky Mtn Power 3rd West Sub Station
 Date Samples Received: November 23, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: November 25, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W-112211-N	EM 828178	0.0700	1142	ND	0.0048	BAS	BAS
3W-112211-S	EM 828179	0.0700	1140	ND	0.0048	BAS	BAS
3W-112211-E	EM 828180	0.0700	1138	ND	0.0048	BAS	BAS
3W-112211-W	EM 828181	0.0700	1140	ND	0.0048	BAS	BAS
Blank	EM 828182	NA	0	NA	----	----	----
Blank	EM 828183	NA	0	NA	----	----	----

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

gvr
 Digitally signed
 by Gina
 Vansabio
 Date: 2011.11.25
 10:18:52 -0700

DATA QA

Due Date: 11-25-11
Due Time: 9/5a

RES 224794

REI LAB *Reservoirs Environmental, Inc.*

5501 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free: 866 REI-ENV

Pager: 303-608-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R & R Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact: <u>Justin Kargin</u>
Address: <u>47 W. 9000 S</u>	Address:	Phone:	Phone:
<u>Sandy, UT 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager: <u>801 828-5219</u>
Project Number and/or P.O. #:		Final Date Deliverable Email Address:	
Project Description/Location: <u>Rocky Mtn Power 3rd West Sub Station</u>			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS												VALID MATRIX CODES		LAB NOTES:
PLM / PCM / TEM	<u>TEM</u> <u>RUSH</u> (Same Day) <u>X</u> PRIORITY (Next Day) <u>STANDARD</u> (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-sec, ISO-Indirect Probs PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) RCRA 6, TCLP, Wetting Furne, Metals Scan ORGANICS - METH Salmonella: +/- E. coli O157:H7: +/- Listeria: +/- Aerobic Plate Count: +/- or Quantification E. coli: +/- or Quantification Coliforms: +/- or Quantification S. aureus: +/- or Quantification Y & M: +/- or Quantification Mold: +/-, Identification, Quantification	SAMPLER INITIALS OR OTHER NOTES												LAB NOTES: <u>ca</u> <u>1/25/11</u>	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 8pm			VALID MATRIX CODES													
Metal(s) / Dust <u>RUSH</u> 24 hr. 3-6 Day			Air = A Bulk = B													
RCRA 8 / Metals & Welding <u>RUSH</u> 8 day 10 day			Oust = O Paint = P													
Fume Scan / TCLP <u>RUSH</u> 8 day 10 day			Soil = S Wipe = W													
Organics <u>24 hr. 3 day 8 Day</u>		Swab = SW F = Food														
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm		Drinking Water = DW Waste Water = WW														
E. coli O157:H7, Coliforms, S. aureus <u>24 hr. 2 Day 3-6 Day</u>		O = Other														
Salmonella, Listeria, E. coli, APC, YAM <u>48 Hr. 3-6 Day</u>		**ASTM 6170 approved wipe media only**														
Mold <u>RUSH 24 Hr 48 Hr 3 Day 8 Day</u>																
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																
Special Instructions:																
Client sample ID number (Sample ID's must be unique)																
1	<u>362-112211-14</u>													<u>1,142A</u>	<u>11/22/11</u>	<u>828178</u>
2	<u>-S</u>													<u>1,140</u>		<u>79</u>
3	<u>-E</u>													<u>1,138</u>		<u>80</u>
4	<u>-W</u>													<u>1,140</u>		<u>81</u>
5	<u>Blank</u>															<u>82</u>
6	<u>Blank</u>															<u>83</u>
7																
8																
9																
10																

Number of samples received: 6 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based on the results received and will not be responsible for error or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, unless to comply with payment terms it is a 1.0% monthly interest surcharge.

Relinquished By: <u>Justin Kargin - FedEx</u>	Date/Time: <u>11/22/11 1800</u>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only		Temp. (F°) Yes / No Yes / No Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>11/23/11 9/5a</u> Carrier: <u>FedEx</u>	
Results:	Contact: <u>Dave</u> Phone: <u>[blank]</u> Email: <u>[blank]</u> Fax: <u>[blank]</u> Date: <u>11/23/11</u> Time: <u>8:45a</u> Initials: <u>[blank]</u>	Contact: <u>[blank]</u> Phone: <u>[blank]</u> Email: <u>[blank]</u> Fax: <u>[blank]</u> Date: <u>11/23/11</u> Time: <u>10:25a</u> Initials: <u>[blank]</u>
	Contact: <u>[blank]</u> Phone: <u>[blank]</u> Email: <u>[blank]</u> Fax: <u>[blank]</u> Date: <u>[blank]</u> Time: <u>[blank]</u> Initials: <u>[blank]</u>	Contact: <u>[blank]</u> Phone: <u>[blank]</u> Email: <u>[blank]</u> Fax: <u>[blank]</u> Date: <u>[blank]</u> Time: <u>[blank]</u> Initials: <u>[blank]</u>

Trace # 7384 2786 7058

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

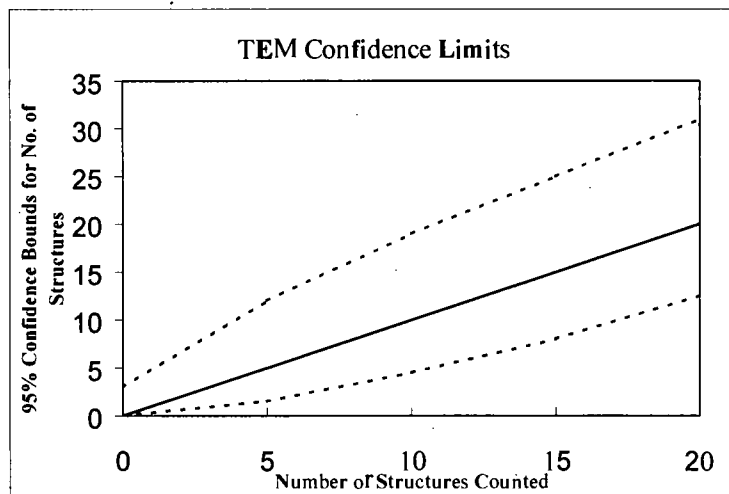
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bemard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1142
Date received by lab	11/23/11
Lab Job Number	224794
Lab Sample Number:	828178

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	11/25/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

°Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H5-4	ND												
	G5-4	ND					Pump A	70% in hnt		5% debris				
	F5-4	ND					Pump B	80% in hnt		5% debris				
	E5-4	ND												
B	F5-1	ND												
	E5-1	ND												
	G5-1	ND												
	E5-6	JB 11/25/11												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QA\Lab\ITEM\Lab Docs\TEM Count Sheet rev. 1-11.xls

Reservoirs Environmental Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1140
Date received by lab	11/23/11
Lab Job Number:	224779
Lab Sample Number:	528179

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	11/25/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	C4-3	ND												
	B4-3	ND					Pmp A	50% intact	5% debris					
	A4-3	ND					Pmp B	50% intact	5% debris					
	B5-4	ND												
B	K3-3	ND												
	H3-3	ND												
	F3-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	885
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1138
Date received by lab	11/23/11
Lab Job Number:	224774
Lab Sample Number:	828180

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Suspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	11/25/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AI
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F4-3	ND												
	E4-3	ND					Pup A	60% amphib			5% debris			
	C4-3	ND					Pup B	60% amphib			5% debris			
	B4-3	ND												
B	F3-1	ND												
	E3-4	ND												
	C3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	2010X 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1140
Date received by lab	11/23/11
Lab Job Number:	224724
Lab Sample Number:	828181

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	11/25/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K5-1	ND												
	K6-1	ND					Pmp A 60 % amphib	3-5 % debris						
	H6-1	ND					Pmp B 50 % amphib	3-5 % debris						
	G6-1	ND												
B	L4-3	ND												
	K4-3	ND												
	H4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{\text{IL}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



Reservoirs Environmental, Inc.

November 28, 2011

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 224878-1
Project # / P.O. #	None Given
Project Description:	Rocky Mtn. Power 3rd West Sub Station

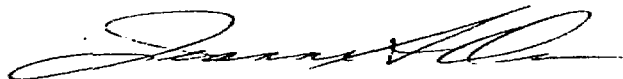
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224878-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224878-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: Rocky Mtn. Power 3rd West Sub Station
Date Samples Received: November 25, 2011
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: November 26, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W112311-S	EM 828708	0.1000	380	ND	0.0101	BAS	BAS
3W112311-E	EM 828709	0.1000	406	ND	0.0095	BAS	BAS
3W112311-N	EM 828710	0.1000	380	ND	0.0101	BAS	BAS
3W112311-W	EM 828711	0.1000	366	ND	0.0105	BAS	BAS

NA = Not Analyzed

ND = None Detected


BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm


 Digitally signed by
 Elisha Ellerman
 DN: CN = Elisha
 Ellerman, C = US,
 O = Reservoirs
 Environmental,
 Inc.
 Date: 2011.11.28
 14:58:10 -07'00'

DATA QA

Due Date: 11-26-11
Due Time: 855a

RES 224878



Reserve Environmental, Inc.

6801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free: 866 RES-ENV

Pager: 303-509-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R & R Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact: <u>Justin Kargis</u>
Address: <u>47 W. 9000 S</u>	Address:	Phone:	Phone:
<u>Sandy, UT 84070</u>		Fax:	Fax:
		Cell/ Pager: <u>801 501-1035</u>	Cell/ Pager: <u>801 828-5219</u>
Project Number and/or P.O. #:		Final Date Deliverable Extra Address:	
Printed Description/Location: <u>Rocky Mtn Power 3rd West Sub Station</u>		<u>dave@rrenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:							
PLM / PCM / TEM	<u> </u> RUSH (Same Day) <u>X</u> PRIORITY (Next Day) <u> </u> STANDARD (Rush PCM = 2hr, TEM = 8hr.)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-sec, ISO-Indirect Progs	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E. coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E. coli +/- or Quantification	Coliforms +/- or Quantification	Staphylococcus +/- or Quantification	Y & M +/- or Quantification	Mold +/- Identification, Quantification	SAMPLE'S INITIALS OR OTHER NOTES	Air = A	Bulk = B	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 8pm																			Dust = O	Paint = P	
Metal(s) / Dust	<u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-5 Day																		Soil = S	Wipe = W	
RCRA 8 / Metals & Welding	<u> </u> RUSH <u> </u> 8 day <u> </u> 10 day																		Swab = SW	F = Food	
Fume Scan / TCLP	<u> </u> RUSH <u> </u> 8 day <u> </u> 10 day																		Drinking Water = DW	Waste Water = WW	
Organics	<u> </u> 24 hr. <u> </u> 3 day <u> </u> 8 Day			O = Other																	
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 8pm																					
E. coli O157:H7, Coliforms, Staphylococcus	<u> </u> 24 hr <u> </u> 2 Day <u> </u> 3-5 Day																				
Salmonella, Listeria, E. coli, APC, Y & M	<u> </u> 48 Hr <u> </u> 3-5 Day																				
Mold	<u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 5 Day																				
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																					
Special Instructions:																					
Client sample ID number (Sample ID's must be unique)																					
1	<u>3W112311-S</u>		X															380	A	11/23/11	828-5219
2	<u>3W112311-F</u>																	406			09
3	<u>3W112311-N</u>																	380			10
4	<u>3W112311-W</u>																	366			11
5																					
6																					
7																					
8																					
9																					
10																					

Number of samples received: (4) (Additional samples shall be listed on attached long form.)

NOTE: REILAB analyzes incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, unless to comply with government terms may result in a 1.8% monthly interest surcharge.

Relinquished By: <u>Justin Kargis - FedEx</u>	Date/Time: <u>11/23/11</u>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only		Temp. (F°) <u> </u> Yes / No Yes / No <u>Yes / No</u>
Received By: <u>[Signature]</u>	Date/Time: <u>11/25/11 8:55a</u> Carrier: <u>FedEx</u>	
Results:	Contact: <u>[Signature]</u> Phone/Email/Fax: <u> </u> Date: <u>11/26/11</u> Time: <u> </u> Initials: <u> </u>	Contact: <u> </u> Phone/Email/Fax: <u> </u> Date: <u>11/28/11</u> Time: <u>250</u> Initials: <u> </u>
	Contact: <u>[Signature]</u> Phone/Email/Fax: <u> </u> Date: <u>11/26/11</u> Time: <u>5:13p</u> Initials: <u> </u>	Contact: <u> </u> Phone/Email/Fax: <u> </u> Date: <u> </u> Time: <u> </u> Initials: <u> </u>

11/26/11 [Signature]

[Signature] 7354 4103 2177

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

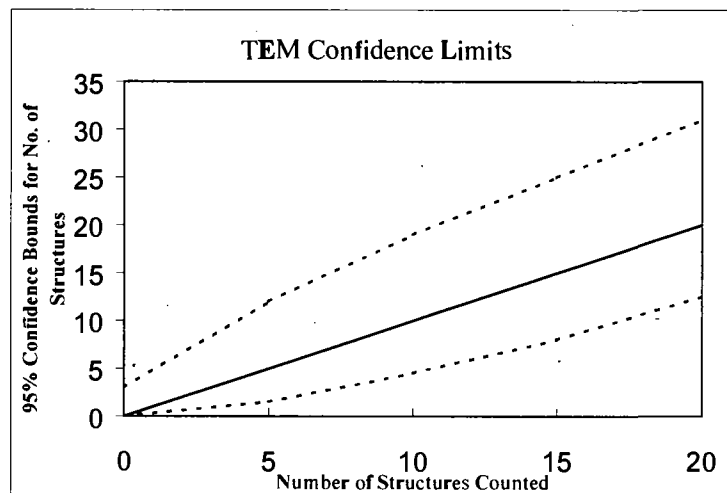
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R R Environmental
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	380 *
Date received by lab	11/25/2011
Lab Job Number:	224878
Lab Sample Number:	828708

Analyzed by	n.zimbelman
Analysis date	11/28/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Low Air Volume, less than the required by Ahera rules.

Low Air Volume, LESS THAN THE REQUIRED BY AHERA RULES.

Client Sample ID Number 3W 112311-5

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-1	ND												
	F3-4	ND												
	F3-1	ND												
	E3-4	ND												
	E3-1	ND												
	E3-4	ND												
	E3-4	ND												
B	B3-4	ND												
	B3-3	ND												
	B4-4	ND												
	E4-6	ND												

A: 85 Yrnt - 1-3 = 2000

B: ~ A

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R R Environmental
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	803 #
Date received by lab	11/25/2011
Lab Job Number	224878
Lab Sample Number:	828709

Analyzed by	a.zimbelman
Analysis date	11/26/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only): Low Air Volume.

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Client Sample ID Number: 3W 113S11-E

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E4-6	SD												
	E4-6	SD												
	F4-6	SD												
	G3-1	SD												
	G3-1	SD												
	G2-6	SD												
B	F2-6	SD												
	G2-1	SD												
	G1-3	SD												
	F1-3	SD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	VC

Client:	RSR Environmental
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	380*
Date received by lab	11/26/2011
Lab Job Number:	224878
Lab Sample Number:	828710

Analyzed by	a.zimbelman
Analysis date	11/26/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

*Low Air Volume. Less than the required by Method.

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Client Sample ID Number: 3W #2311-N

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F2-3	ND												
	G2-3	ND												
	H2-3	ND												
	K2-3	ND												
	K3-4	ND												
	H3-4	ND					A: 95% Indirect			1-3% Direct				
	G3-4	ND												
B	F4-4	ND												
	G4-4	ND					B ~ A							
	H4-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R8 R Environmental
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	366*
Date received by lab	11/25/2011
Lab Job Number	224878
Lab Sample Number:	828711

Analyzed by	n.zimbelman
Analysis date	11/26/2011
Method (D=Direct, I=Indirect)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

* Low Area Vol.

Client Sample ID Number 3W 112S11-W

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	12-1	LD												
	62-1	LD												
	62-3	LD												
	F2-6	LD												
	F2-3	LD												
B	F3-4	LD					A+B =				50/95 & 84-1-2 (Jawed)			
	E3-6	LD												
	E3-3	LD												
	B3-6	LD												
	A3-6	LD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

- Fiber:** is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
- Bundle:** is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
- Cluster:** is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
- Matrix:** is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening